



Implementation of the Market Policy Framework (“Quick Hits”)

October 5, 2005

Calgary, Alberta

Agenda

- Background
- Quick Hits
- Implementation
- Timeline
- Questions



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Background

- On June 6th, 2005, the Alberta Department of Energy released a major electricity market policy paper entitled, “ Alberta’s Electricity Policy Framework: Competitive – Reliable – Sustainable.” The paper was the result of over a year and a half of dialogue and discussions led by the DOE and involving stakeholders, the AESO and the other implementing agencies.
- After the release of the Policy Framework, the Policy Working Group was reconstituted as the STA Working Group, with the AESO as the Chair. The purpose of the STA Working Group was to act as an idea generating forum to bring additional clarity to the implementation of specific recommendations included in the Policy Framework.
- On August 5 the AESO published a set of “term sheets” that were a snapshot of the conversations and discussions being held regarding the “Quick Hits” package.
- As part of our ongoing consultation process, the AESO on September 21, 2005, circulating an updated proposal for the implementation of the Quick Hits.



Short Term Adequacy (STA) “Quick Hits” Recommendations

- Key Definitions
- Merit Order Stabilizers:
 - Must Offer
 - Must Comply
 - Limitation on Restatements
- Treatment of Imports
- Payments to Marginal Generators
- Reconstitution of Pool Price for TMR Energy



Key Definitions

- “Acceptable Operational Reason (AOR)” means with respect to an asset,
 - a circumstance related to the operation of the asset which if operated could reasonably be expected to affect the safety of the asset, the environment, staff or the public, or
 - re-positioning an Asset within the energy market due to the need to meet a Dispatch given to that Asset from the System Controller to serve the Ancillary Services market, or
 - re-positioning an Asset within the energy market to manage unanticipated physical or operational constraints associated with the Asset, or
 - an event caused by force majeure.
- This term is defined in the current rules



Key Definitions

- “Available Energy (AE)”
 - for an intra-Alberta Source Asset means the maximum quantity of energy that the Asset is physically capable of providing during each Settlement Interval of the Trading Day including but not limited to, emergency capacity ratings, capacity constrained energy such as on a hydro system and alternate fuel energy such as gas firing on a coal unit.
 - for an import Source Asset means the maximum quantity of energy that the Importer is capable of providing during each Settlement Interval of the Trading Day up to the total amount of firm or non-firm transmission held by the Participant for those Settlement Intervals.



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Key Definitions

- “Total Transfer Capability (TTC)” means the amount of electric power that can be transferred over the interconnected transmission network in a reliable manner while meeting all of a specific set of defined pre- and post-contingency system conditions.
- “Available Transfer Capability, (ATC)” means a measure of the transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses. Mathematically ATC is defined as the Total Transfer Capability less the Transmission Reliability Margin less the sum of existing transmission commitments.



Merit Order Stabilizers – Must Offer

- By noon on the day before the next Trading Day, a Market Participant with a Source Asset **must** submit price quantity pairs to the Energy Trading System.
- A Market Participant must also provide the physical characteristics of their Source Asset and/or Operating Block including, but not limited to, start-up times and ramp times.
- All Available Energy must be offered and may only be restated for an Acceptable Operational Reason.



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Merit Order Stabilizers – Must Comply

- The System Controller will use the Energy Market Merit Order to provide Market Participants with their Energy Market Dispatch instructions within each Settlement Interval.
- A Market Participant with a Source Asset **must** comply with an Energy Market Dispatch of the Source Asset's Operating Blocks.
- An Importer **must** comply with an Energy Market Dispatch of the Source Asset's Operating Blocks. The associated in-merit intra-Alberta Generating Unit must also comply with an Energy Market Dispatch of the Equivalent Operating Block.



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Merit Order Stabilizers – Restatements

- **Energy restatement**

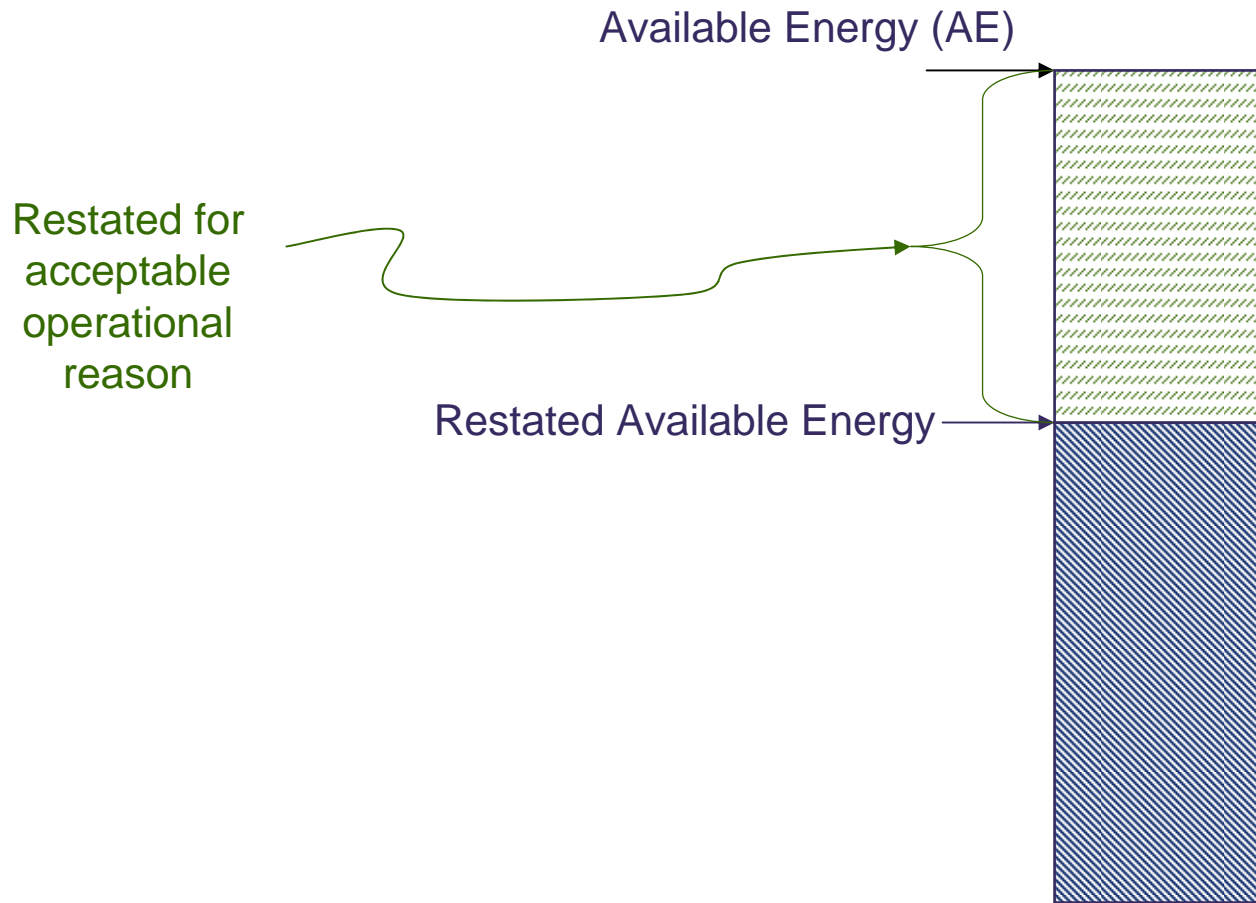
- is a restatement of Available Energy. Available Energy may be restated at any time and may only be restated for an Acceptable Operational Reason.

- **Price restatement**

- is the restatement of price and/or redistribution of energy between Operating Blocks. A Participant may restate the prices associated with the Source Asset's Operating Blocks at any time prior to two hours before the start of any Settlement Interval.
- A Market Participant may redistribute energy between Operating Blocks at any time prior to two hours before the start of any Settlement Interval.
- Price Restatements will not be allowed within two hours of the start of any Settlement Interval.



Merit Order Stabilizers – Energy Restatement



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Treatment of Imports

To the extent possible, imports are to be treated the same as intra Alberta generators:

- Owners of “firm transmission” must offer energy on a day ahead basis – this energy will be taken into account in the AESO’s reliability assessment and must be delivered if issued an energy dispatch.
- Energy to be delivered on “non-firm transmission” may be offered up to T-2 and must be delivered if issued an energy dispatch.
- Imports will be allowed to set Pool price if they are able to respond to an intra hour energy market dispatch – in the near term this will mean that importers wishing to set Pool price will have to make arrangements for intra Alberta generation to accept an energy market dispatch during the delivery hour.
- Imports are subject to the T-2 “lockdown” for price restatements.
- Imports with firm transmission must respond to a commitment dispatch.



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Treatment of Imports

Import Must Offer

- Firm transmission holders must submit price quantity pairs to the Energy Trading System before noon on the day before the next Trading Day.
- The Available Energy submitted by an Importer holding firm transmission will be considered to be an existing transmission commitment for the purposes of determining the Available Transfer Capability.
- An Importer holding non-firm transmission into Alberta must submit price quantity pairs for the Source Asset's Operating Blocks to the Energy Trading System at least two hours before the start of any Settlement Interval.



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Treatment of Imports

Dispatch

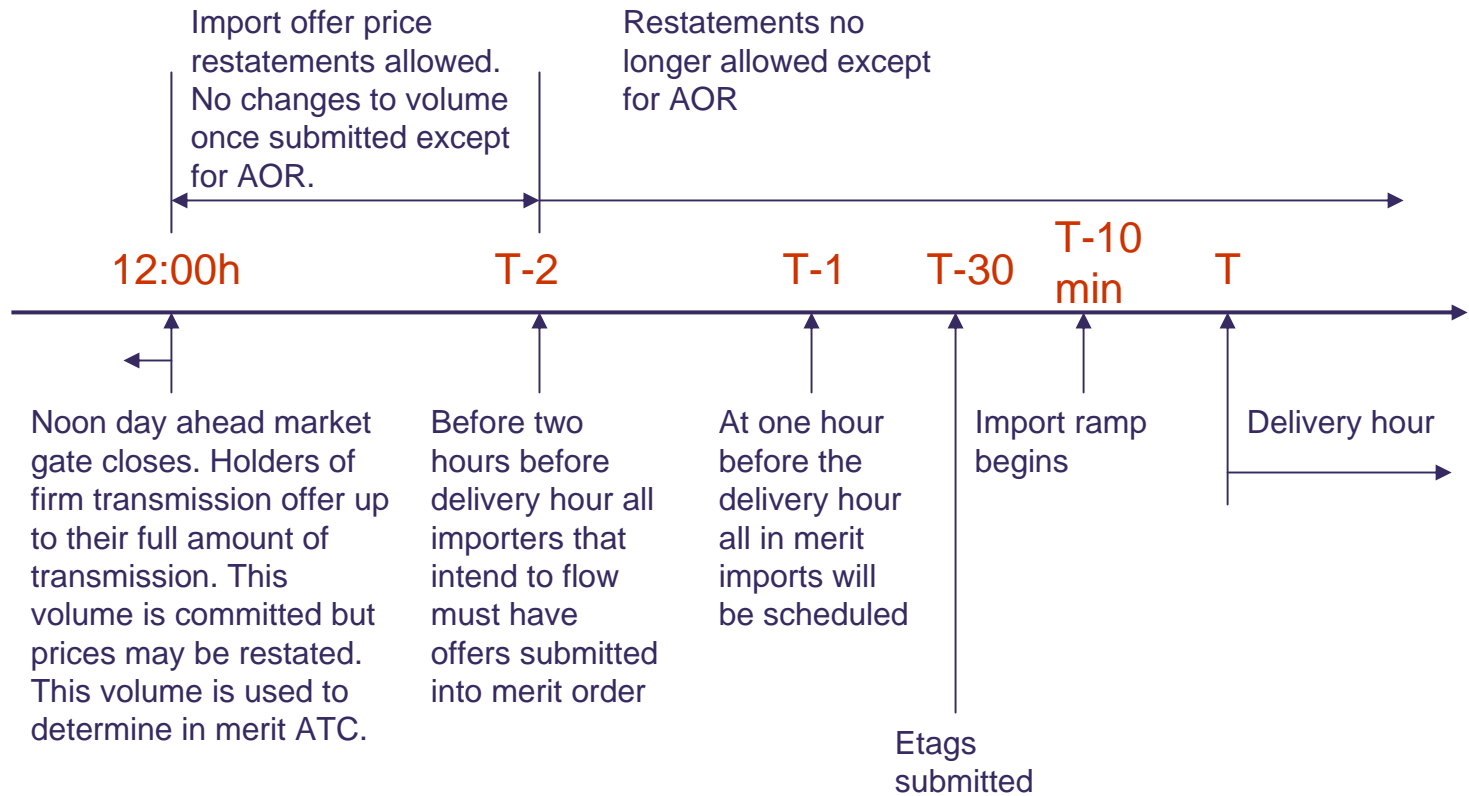
- An import Operating Block will be eligible to submit a non-zero price offer, and therefore be eligible to set the System Marginal Price, if the Source Asset is deemed to be able to accept an Energy Market Dispatch.
- Imports will be deemed to have the ability to follow dispatch instructions when the party importing energy has in place an arrangement with an approved in merit Alberta generator to follow system operator dispatch instructions that would be sent to the import if it was the marginal generator.
- An Importer must continue to submit a \$0 / MWh price offer for the import Operating Blocks that are deemed to be non-dispatchable.



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Treatment of Imports



Payments to Marginal Generators

- The Policy Framework paper recommends:
 - “in the interim and as a possible alternative to the alignment of dispatch and settlement periods intra-Alberta energy blocks that are dispatched within a settlement hour will receive the greater of pool price or their offer price for the dispatch period within the hour” (page 22*).



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Payments to Marginal Generators

- An Operating Block of any Source Asset is eligible to receive Uplift if the following conditions are met:
 - The Operating Block receives an Energy Market Dispatch.
 - The offer price associated with the dispatched block is greater than the Pool Price for the same Settlement Interval.



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Payments to Marginal Generators

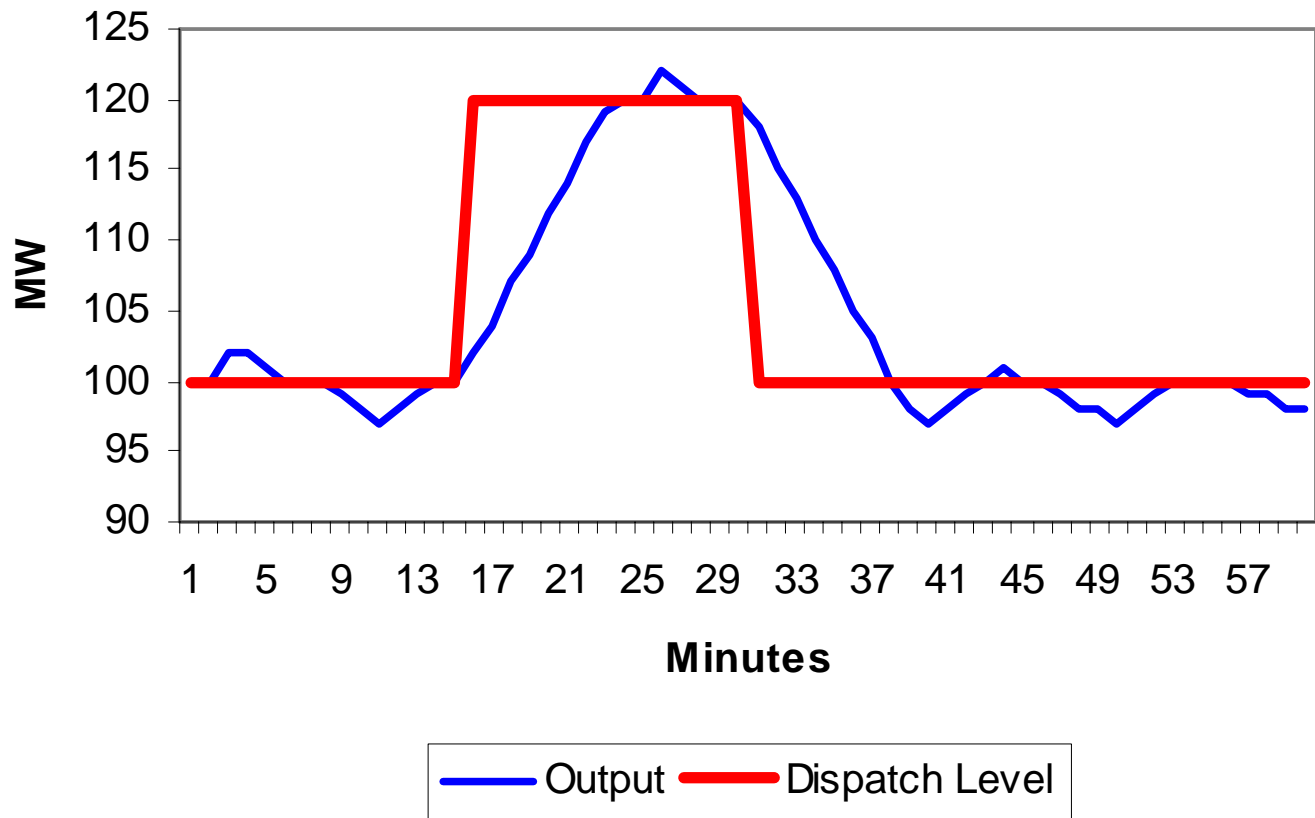
- Eligible Operating Blocks will receive the difference between Pool Price and the Operating Block's offer price for the incremental energy produced by the Operating Block in accordance with the Energy Market Dispatch.
- Based on Energy Production and dispatch volumes of electric energy in a Settlement Interval:
 - if the Source Asset has under produced, then no uplift will be paid;
 - if the Source Asset has produced an expected range, then uplift will be based on the incremental Energy Production that contributed to the dispatch instruction; or
 - if the Source Asset has over produced, then uplift will be based on the MW volume dispatched for the time it was dispatched.



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Payments to Marginal Generators Dispatch vs Output



Payments to Marginal Generators

Example - Compensation

Expected settlement period volume: 105 MWh

Actual Meter volumes: 103 MWh

Incremental Offer Price: \$100

Pool price: \$90

Calculation steps:

Incremental energy = Actual (103 MWh) > (Previous dispatch)100 MWh

Max uplift = Expected volume: 105 MWh - (Previous dispatch)100 MWh

Uplift = 3MWh x (\$100 (Offer) - \$90 (PP)) = \$30

Under production =< 100 MWh (zero incremental payment)

Over Production =>105 MWh (Pool Price)



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Payments to Marginal Generators

Load Allocation

- The uplift paid to Source Assets in each Settlement Interval will be prorated to the Energy Consumption in that Settlement Interval
- Load Uplift Payment = Total Generator Uplift Payments x (Individual Metered Load / Total Load)

Example:

$$\begin{aligned}\text{Load Uplift Payment} &= \$30 \times (50 \text{ MWh} / 7500 \text{ MWh}) = \$0.20 \\ &= (\$0.004/\text{MWh})\end{aligned}$$



Reconstitution of Pool Price for Transmission Must Run (TMR) Energy

- The Policy Framework paper “supports the concept of reconstituting the clearing price for all instances where TMR is employed on an interim or temporary basis.” (page 38*)
- However the Policy Framework does not recommend reconstituting the price “where TMR has taken on the role as a cost effective an appropriate long-term alternative to building transmission.” (page 38*)
- Components of TMR service and TMR compensation are currently in front of the AEUB as part of the Ancillary Services Amendment Application. Principles established through the AEUB process may affect this proposed methodology for TMR reconstitution.



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TMR Categories

- TMR generation required to relieve a constraint will be deemed to be interim or temporary in nature unless is specifically identified by the AESO as a long-term alternative to building transmission.
- TMR is currently used in the Rainbow Lake and Grande Prairie regions as well as the Edmonton and Calgary regions. All of the TMR currently in use is deemed to be temporary in nature.



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Reconstitution of Pool Price for Transmission Must Run (TMR) Energy

- Reference Price:
 - A Generating Asset providing TMR service will require a TMR Reference Price to be used in the calculation of the reconstituted System Marginal Price.
- The specific methodology for determining the TMR Reference Price will be consistent with the principles regarding appropriate compensation for TMR service that will be established through the AEUB process.



Reconstitution of Pool Price for Transmission Must Run (TMR) Energy

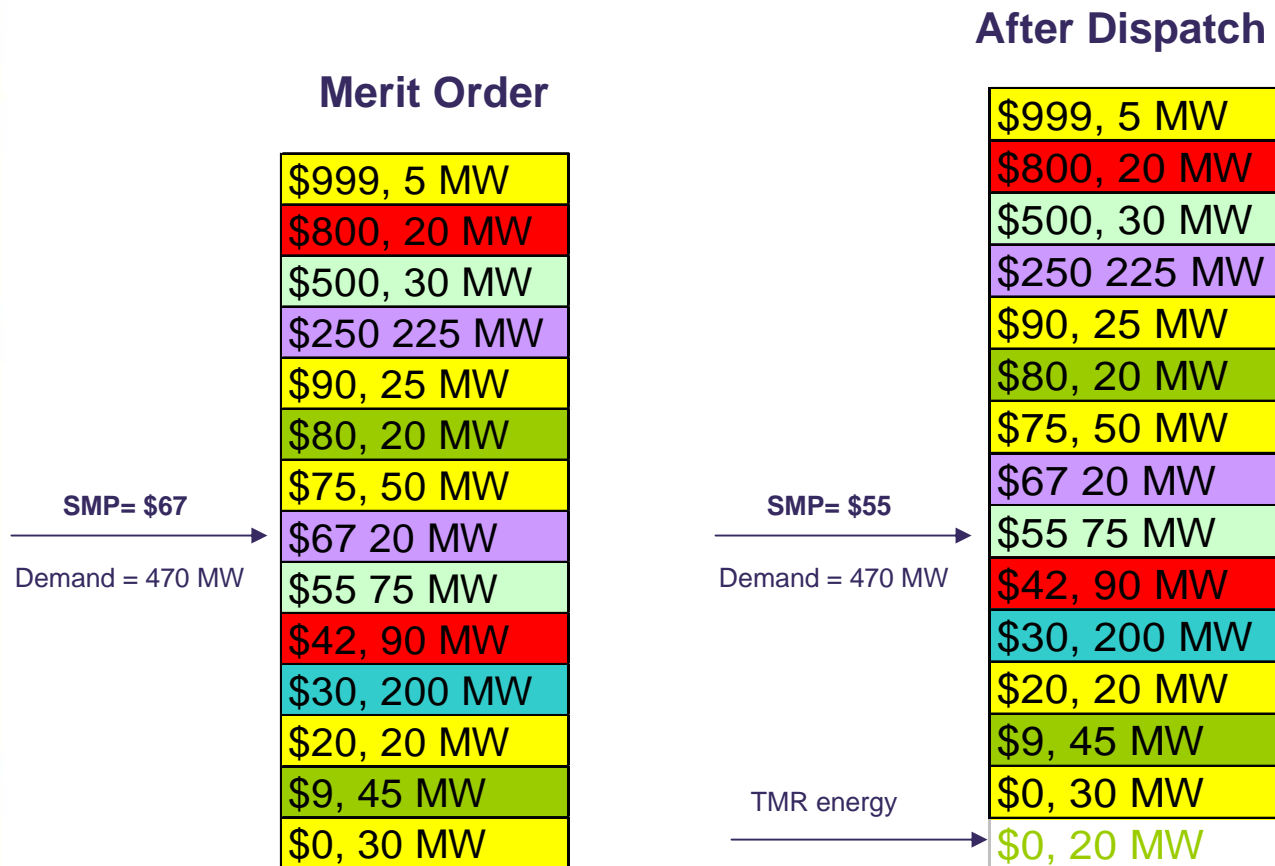
- The following steps will be invoked when a Generating Asset supplying TMR on an interim or temporary basis is dispatched:
 - 1) A Virtual TMR Operating Block will be inserted into the Energy Market Merit Order. The offer price associated with the Virtual TMR Operating Block will be the TMR Reference Price. The quantity (in MW) associated with the Virtual TMR Operating Block will be equivalent to the quantity (in MW) of TMR dispatched pursuant to the TMR Dispatch.
 - 2) The Energy Market Merit Order will be re-established to include the Virtual TMR Operating Block.
 - 3) In real time, the System Marginal Price will be reconstituted as the price of the highest priced Operating Block that would have been required to meet the AIES Demand.
 - 4) The Pool Price will be calculated as the average of the 60 one minute reconstituted System Marginal Price values determined for each minute of the Settlement Interval.



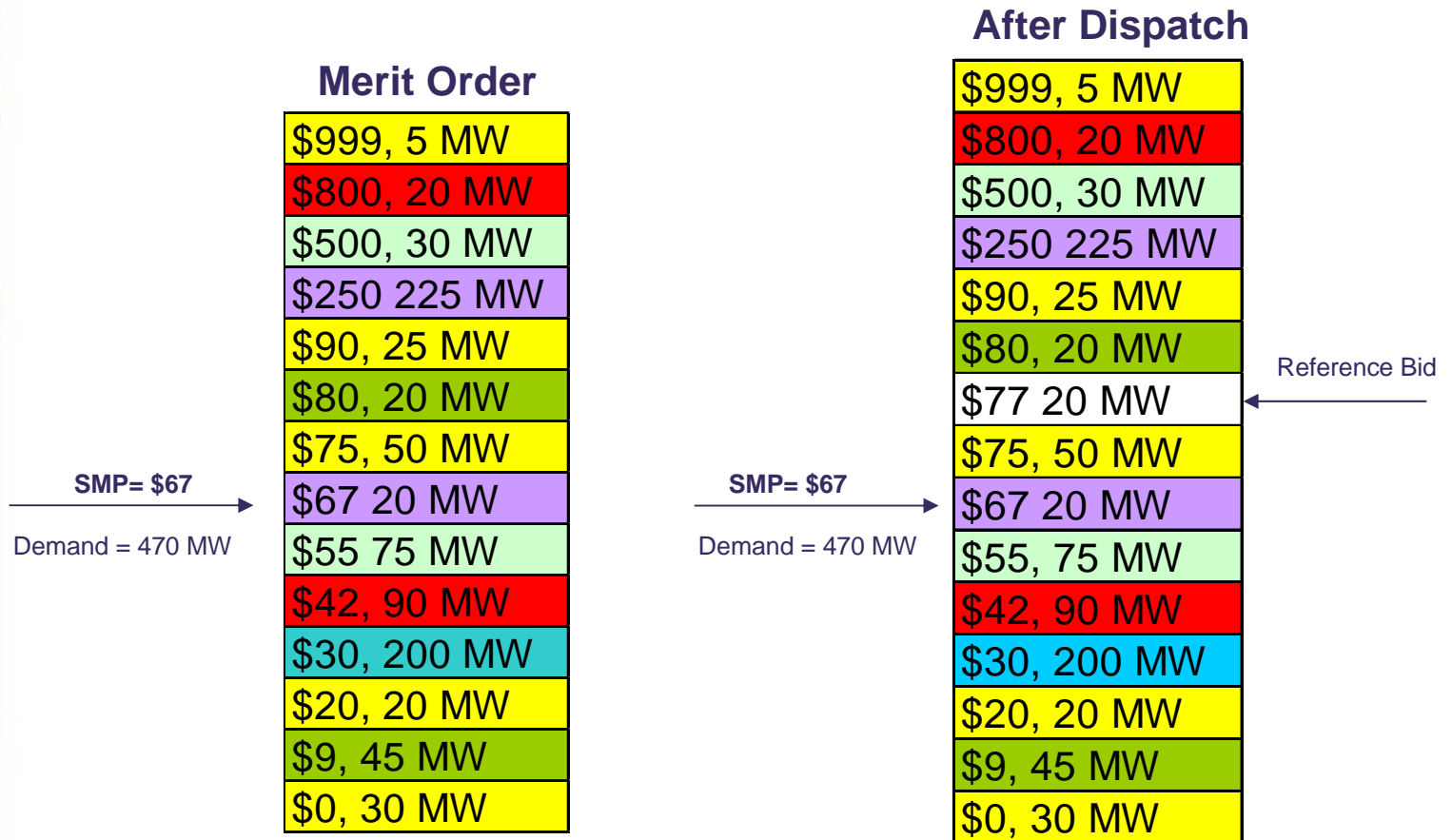
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Current SMP Calculation



TMR Reconstitution



Timetable for “Quick Hits” Implementation

- **Oct. 14, 2005** - Stakeholder comments to be provided in writing to Wes Green, Director, Market Services, at **wes.green@aeso.ca**.
- **Oct. 19, 2005** - Comment matrix distributed by the AESO with a summary of views expressed in October 14 stakeholder comments, including AESO responses to the comments.
- **Dec. 2005** - Implementation target.



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Questions



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